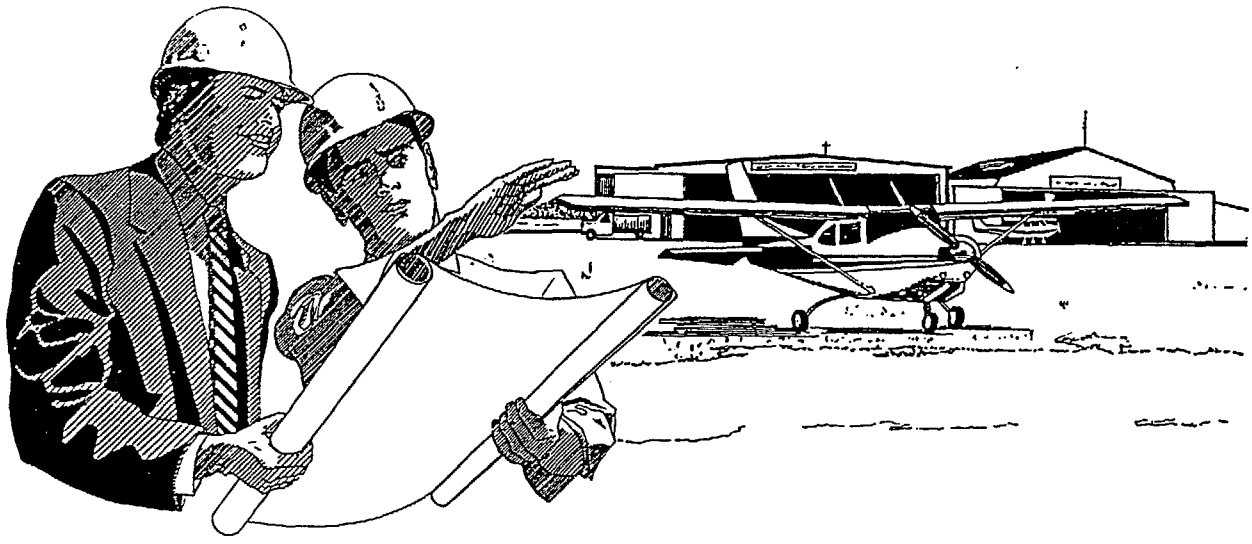
DEVELOPMENT ALTERNATIVES



Chapter Four
DEVELOPMENT ALTERNATIVES

Springerville Municipal Airport

In the previous chapter, facility needs for the twenty-year planning horizon were identified. Having quantified these needs, the next step in the planning process is to identify and evaluate the various ways these facilities can be provided. The evaluation of alternatives may be the most important step in the planning process since decisions made in support of a development option will result in significant capital expenditures. A sound program for airport improvements must, therefore, be developed. This is accomplished through careful consideration of the merits and disadvantages of various development alternatives.

The development alternatives presented in this chapter provide various options for meeting the short and long-term aviation demand at Springerville Municipal Airport. Development alternatives should be designed to be functional, cost-effective and environmentally compatible. In order to be considered feasible for implementation, the alternative must take into account many factors including the airport's role in the aviation system and its ability to accommodate current and future activity. Alternatives must also be geared to provide flexibility to accommodate expansion beyond requirements identified for the planning period, should the need arise in the future. Finally, alternatives must be prepared in compliance with applicable Federal Aviation Administration (FAA) airport design standards and other regulatory provisions.

These feasibility and flexibility factors are considered to be the most important elements of facility development. While not all-inclusive, they do provide a starting point from which to evaluate the proposed alternatives.

The possible combinations of development alternatives can be endless; therefore, some intuitive judgement must be used to identify those alternatives which have the greatest potential for implementation. The evaluation of alternatives is a process of deciding which options are most compatible with the community's goals and objectives for the airport. After the alternatives evaluation process, a selected airport concept can then be transformed into a realistic development plan.

There are many alternatives that can be conceived towards meeting the goal of accommodating current and future aviation demand at Springerville Municipal Airport; however, to provide a complete assessment, it cannot be merely assumed that the improvement of the existing facility comprises the only option. The range of alternatives must include a "No Action" option and a scenario which investigates a relocation of aviation demand to another existing facility or even to a new site.

The "No Action" and "Relocation of Services" alternatives evaluate whether it is possible to adequately accommodate aviation demand without further improvement of the existing airport. If these alternatives succeed in meeting the transportation and economic needs of the community, public and private investment might be minimized. Only after these two options have proved infeasible or imprudent should alternatives which analyze improving or expanding the existing airport be considered.

NO ACTION ALTERNATIVE

The "No Action" alternative considers the repercussions of maintaining the airport in its present condition and not providing for any improvement to the existing facilities. Because the capacity of the existing airport facility is expected to be exceeded before the end of the planning period, a "No Action" approach would be contrary to the growth that has and is occurring at Springerville Municipal Airport. Improvements to the airport facilities would continue to be needed in response to this growth.

Under this alternative, the cross-wind runway would not be equipped with a full, parallel taxiway neither would it be extended in order to meet the minimum runway length recommended in *FAA Advisory Circular 150/5300-13, Airport Design*. Also, additional aircraft parking apron would not be constructed, thereby continuing to constrain the airport during the summer months when it is heavily utilized by both tourists and the United States Forest Service (USFS). Finally, Springerville Municipal Airport would not be equipped with nonprecision approaches which would assist pilots in landing at the airport during poor weather conditions.

The "No Action" alternative would result in adverse impacts on the economic well being of the Springerville/Eager region. In order to continue to attract the business and vacation traveler to Apache County, the airport's facilities must be adequate to accommodate their needs. To accomplish this, improvements to the existing facility would be necessary.

Finally, implementation of the "No Action" alternative would be inconsistent with investments which the Town of Springerville, State of Arizona and the FAA have made over the preceding years to improve the airport facility.

In summary, a number of adverse economic and social impacts are associated with the

"No Action" alternative, implementation of which would result in a substandard aviation facility. The "No Action" alternative is, therefore, neither feasible nor prudent.

RELOCATION OF SERVICES

The relocation of aviation services either to a new site or to another existing airport is an alternative that can be considered before improving the existing facility. While this option may be favored by those residing close to the airport, the relocation of an airport is a complex and expensive alternative which can have far-reaching impacts.

In addition to the major financial investment, the development of a new airport also takes a commitment of extensive land area. The location of a new site is usually undeveloped, resulting in potential impacts to wildlife habitat, ranchland and cultural resources. These impacts are generally greater than at an existing site which has additional development capability, such as Springerville Municipal Airport.

Regional economic impacts may also be expected when relocating an airport facility. Airports provide an economic benefit and advantage to communities in which they are located. When airports are relocated, there is no guarantee the most feasible site will be located within the same community. The high costs associated with new airport development will also continue to limit the number of new facilities that the aviation industry and the public can absorb. It is prudent, therefore, to maximize existing public investment to meet future needs, before abandoning that investment simply to duplicate it elsewhere.

Regarding the possibility of relocating services to another, existing airport in the area, this option is also considered to be neither feasible nor prudent. The nearest airport to Springerville Municipal Airport is St. Johns Industrial Air Park located approximately 29 road miles (24 nautical miles) north in St. Johns, Arizona. While this airport may be able to accommodate some of the based aircraft facility demands, it would be inconvenient for the transient general aviation pilots and passengers and the majority of local pilots.

The location of Springerville Municipal Airport is convenient for visitors to the Casa Malpais ruins, Round Valley Ensphere and the White Mountains recreational area (including Sunrise Ski resort). It is also convenient for business travellers to the communities of Springerville, Eager and the region's designated business center located 15 miles north of the airport.

Relocating aviation services to another location is also not prudent nor feasible considering the existing airport location has the capability to accommodate future demands with far less capital improvements and at a convenient location. This alternative was, therefore, not considered further.

AIRPORT DEVELOPMENT CONSIDERATIONS

In formulating development alternatives, airside facilities are typically considered first because of their primary role in supporting and directing aircraft movements. Airfield development also physically dominates an airport's land uses; therefore, selection of an airfield alternative would usually affect the amount and location of other types of land uses. This is especially true at airports

with intersecting runways where it is necessary to maintain line-of-sight standards between the runways.

The "runway visibility zone" is an area formed by imaginary lines connecting the cross-wind runways' visibility points. These visibility points are generally the midpoint between each runway end and the intersection of the two runway centerlines. A diamond shape is formed by connecting the midpoints. An unobstructed line-of-sight needs to be maintained within the triangle. As stated in *FAA Advisory Circular 150/5300-13, Airport Design*, "[t]errain needs to be graded and permanent objects need to be designed or sited so that there is an unobstructed line of sight from any point five feet above one runway centerline to any point five feet above an intersecting centerline within the runway visibility zone."

In evaluating the existing runway visibility zone at Springerville Municipal Airport, it was determined that the existing FBO building, manufactured home and port-a-port were all located within the runway visibility zone. This evidently occurred when Runway 3-21 was extended, relocating the visibility point of that runway further north.

There are three options for addressing this conflict with the design standards. The first is to remove and/or relocate the buildings and hangar. The second is to shorten the southeastern portion of Runway 11-29 in order to relocate the visibility point further northwest. This effectively removes the structures from the existing runway visibility zone by creating a new zone. The third is to obtain a "deviation from standard" from the FAA to allow the buildings and hangar to remain where they are. This request is typically made at the time an Airport Layout Plan (ALP) is submitted to the FAA for their approval. The likely impacts and potential landside development layout of each of these options are reflected in the first three airport development alternatives. The fourth alternative represents the recommended airport layout.

AIRPORT DEVELOPMENT ALTERNATIVE A

The first airport development alternative, illustrated on **Exhibit 4A, Airport Development Alternative A**, resolves the runway visibility zone issue by obtaining a "deviation from standard" from the FAA, thereby allowing the FBO building, manufactured home and port-a-port to remain where they are currently located.

Airside improvements include the provision of nonprecision approaches to both ends of Runway 3-21. A preliminary airspace analysis determined that both runway ends could be equipped with nonprecision approaches. Visual approaches were provided to both ends of Runway 11-29. (Note: the provision of visual approaches on the cross-wind runway is contrary to the facility requirements recommended in **Chapter Three, Facility Requirements;** however, it remains an option.)

Airport Development Alternative A also provides for a 1,411 foot extension to the northwest end of Runway 11-29 to in order ultimately provide a 6,000 foot runway, as discussed in **Chapter Three.** This runway would be designed to *Airplane Design Group* (ADG) I standards resulting in a runway 60 feet wide with a pavement strength of 12,500 pounds single-wheel loading (SWL). A partial-parallel taxiway is proposed to be constructed on the northeast side of the runway, extending from the existing taxiway to the end of Runway 29. The centerline of this taxiway

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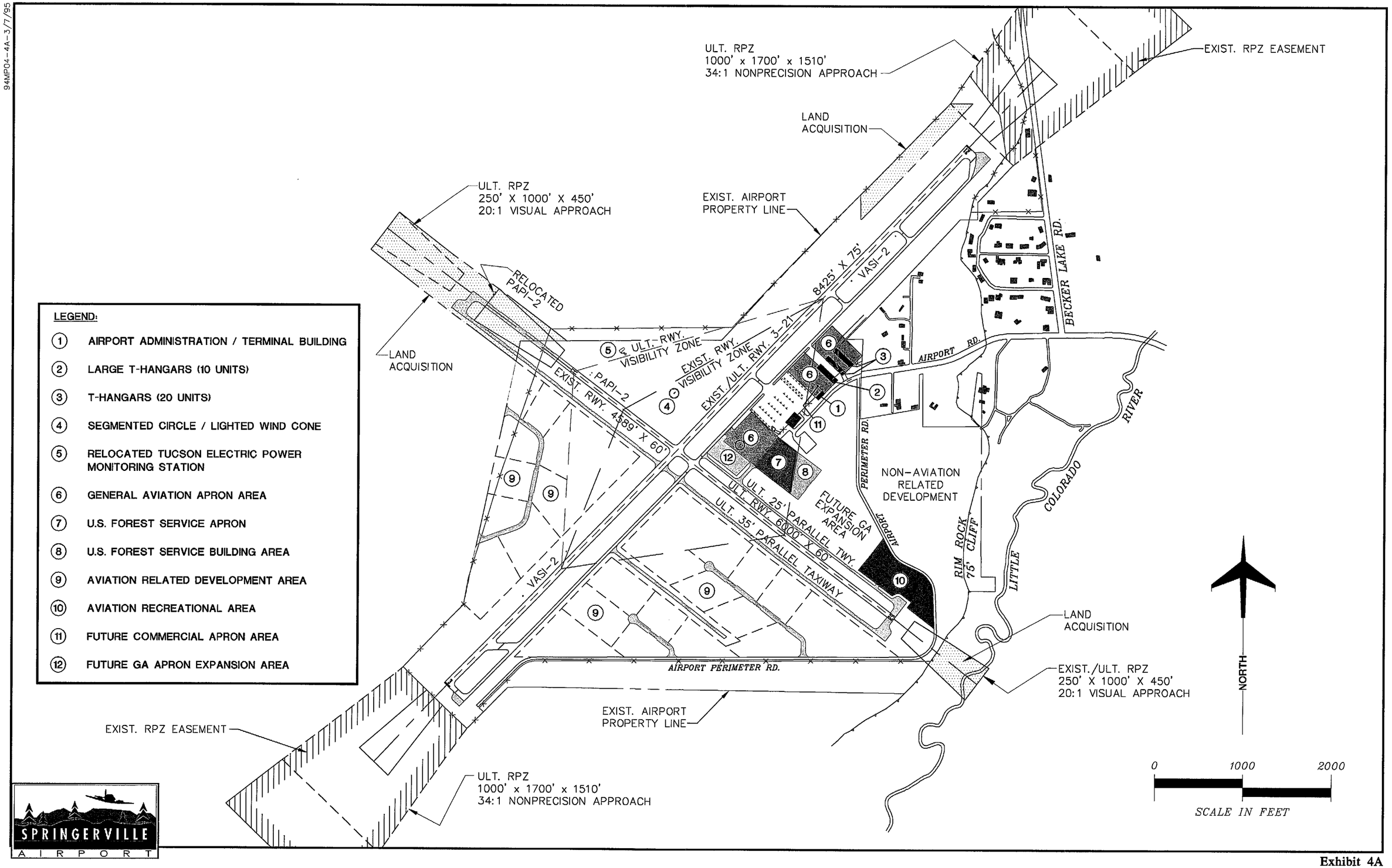

LEGEND:

1. AIRPORT ADMINISTRATION / TERMINAL BUILDING
2. LARGE T-HANGARS (10 UNITS)
3. T-HANGARS (20 UNITS)
4. SEGMENTED CIRCLE / LIGHTED WIND CONE
5. RELOCATED TUCSON ELECTRIC POWER MONITORING STATION
6. GENERAL AVIATION APRON AREA
7. U.S. FOREST SERVICE APRON
8. U.S. FOREST SERVICE BUILDING AREA
9. AVIATION RELATED DEVELOPMENT AREA
10. AVIATION RECREATIONAL AREA
11. FUTURE COMMERCIAL APRON AREA
12. FUTURE GA APRON EXPANSION AREA

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Exhibit 4A
AIRPORT DEVELOPMENT ALTERNATIVE A

would be 150 feet from the centerline of Runway 11-29 and would have a width of 25 feet, in accordance with ADG I design standards. This taxiway would provide access to Runway 29 from the general aviation service area. Aircraft use Runway 29 nine times more often than they use Runway 11, making a partial-parallel taxiway a feasible option.

A full-length, parallel taxiway designed to ADG II standards would be provided on the southwest side of Runway 11-29. This would provide access to Runway 11, as well as to a number of industrial park "lease parcels" within the two proposed commercial/industrial air parks. The centerline of this taxiway would be 240 feet from the centerline of Runway 11-29. It would be designed to a width of 35 feet and a pavement strength of 30,000 pounds SWL. An additional stub taxiway is proposed within the southern air park area to provide airfield access to additional lease-parcels. This taxiway would also be constructed to ADG II standards. Under this scenario, the existing parallel taxiway would be widened to 35 feet to comply with ADG II standards.

Under Alternative A, the general aviation area would remain in the eastern quadrant of the airport, between Runways 21 and 29. This area is more than adequate to accommodate the anticipated demand for hangars and aircraft parking apron both during the planning period and beyond. Three T-hangar buildings are proposed, each with ten units. Two of the buildings are planned for aircraft with smaller wingspans and one for aircraft with ADG II wingspans. It is anticipated that any additional conventional hangar space demand will be accommodated within the industrial air parks.

A small general aviation terminal building (approximately 7,500 s.f.) is provided for in the general aviation service area. This terminal building will be adequate to accommodate the anticipated air taxi/commuter service at Springerville Municipal Airport over the next 20-years, as well as offices for airport management and other aviation related users.

A portion of the proposed apron area has been reserved for use by the U.S. Forest Service (USFS). This apron would have direct access onto the partial-parallel taxiway. Larger USFS aircraft would be able to taxi directly to Runway 3-21's parallel taxiway by crossing the expanded apron located west of the existing apron. A building area has been reserved near the USFS apron for the development of Smokejumper facilities.

Under this alternative, an area has been set aside for use as a recreational aircraft parking/camping area. Located near the end of Runway 29, it has road access and is located fairly close to the FBO building. The location of the building restriction line (set for a 35-foot high building) limits this parcel from significant development.

The south and west quadrants of the airport have been reserved for an industrial air park. The lease areas illustrated average from three to five acres and were located to maximize the lots with taxiway access. Access to the western quadrant may be provided by either extending the existing airport perimeter road around Runway 3, or by a new bypass road from U.S. 60 to Route 260. To reduce traffic congestion on Airport Road and for convenience, providing both connections would be ideal. In the cost comparison section of this chapter, we assume a roadway connection

from the existing airport perimeter road to the west quadrant.

Because the northern quadrant of the airport is located almost entirely within the runway visibility zone, no significant landside development is proposed in this location. It is recommended the area be used for the segmented circle, the Tucson Electric Power monitoring station and any similar equipment.

Approximately 38 acres of land acquisition would be required to implement Alternative A. This is to accommodate the runway extension, relocated runway protection zone and perimeter road extension.

AIRPORT DEVELOPMENT ALTERNATIVE B

The second development alternative, illustrated on **Exhibit 4B, Airport Development Alternative B**, resolves the runway visibility zone issue by shortening the southeast end of Runway 11-29 enough to remove the FBO/terminal building from the zone (approximately 780 feet). The manufactured home and the port-a-port would remain in the zone and would have to be relocated.

Alternative B provides a 971 foot extension to the northwest end of Runway 11-29, resulting in an ultimate runway length of 4,800 feet. An extension to 6,000 feet was considered, but would significantly reduce the Town's ability to develop an industrial air park in the western quadrant of the airport.

Under this alternative, all four runway ends would be equipped with nonprecision approaches using the GPS technology. This is consistent with the recommendation in **Chapter Three.**

A full-length parallel taxiway to Runway 11-29 is proposed for the northeastern side of the runway. This taxiway would be constructed to ADG I standards, meaning it would be 25 feet in width and would be located 150 feet from the centerline of the runway.

A partial-parallel taxiway in conformance with ADG II standards is proposed on the southwestern side of the runway. This taxiway would provide access for some of the parcels in the industrial air park. The taxiway was extended beyond the runway end in order to provide taxiway access to an additional parcel in the proposed air park. A similar partial-parallel taxiway is proposed along the southwestern end of Runway 3-21, also in conformance with ADG II standards and also to provide direct taxiway access to parcels in the air park. A taxiway on this side of the western quadrant will provide access to one additional air park parcel over Alternative A.

Similar to Alternative A, the general aviation area is located in the eastern quadrant of the airport. Again, three T-hangar buildings are proposed, two for ADG I aircraft and one for ADG II aircraft. Each building will contain ten units; however, there is opportunity for expansion, should additional units be needed. A 7,500 square foot terminal building has been located between the existing FBO hangar and the future T-hangars.

The recreational aircraft parking/camping area is located immediately adjacent to the improved apron. This is both to provide convenience for the campers to utilize existing sanitary facilities and to provide the airport with an overflow aircraft parking

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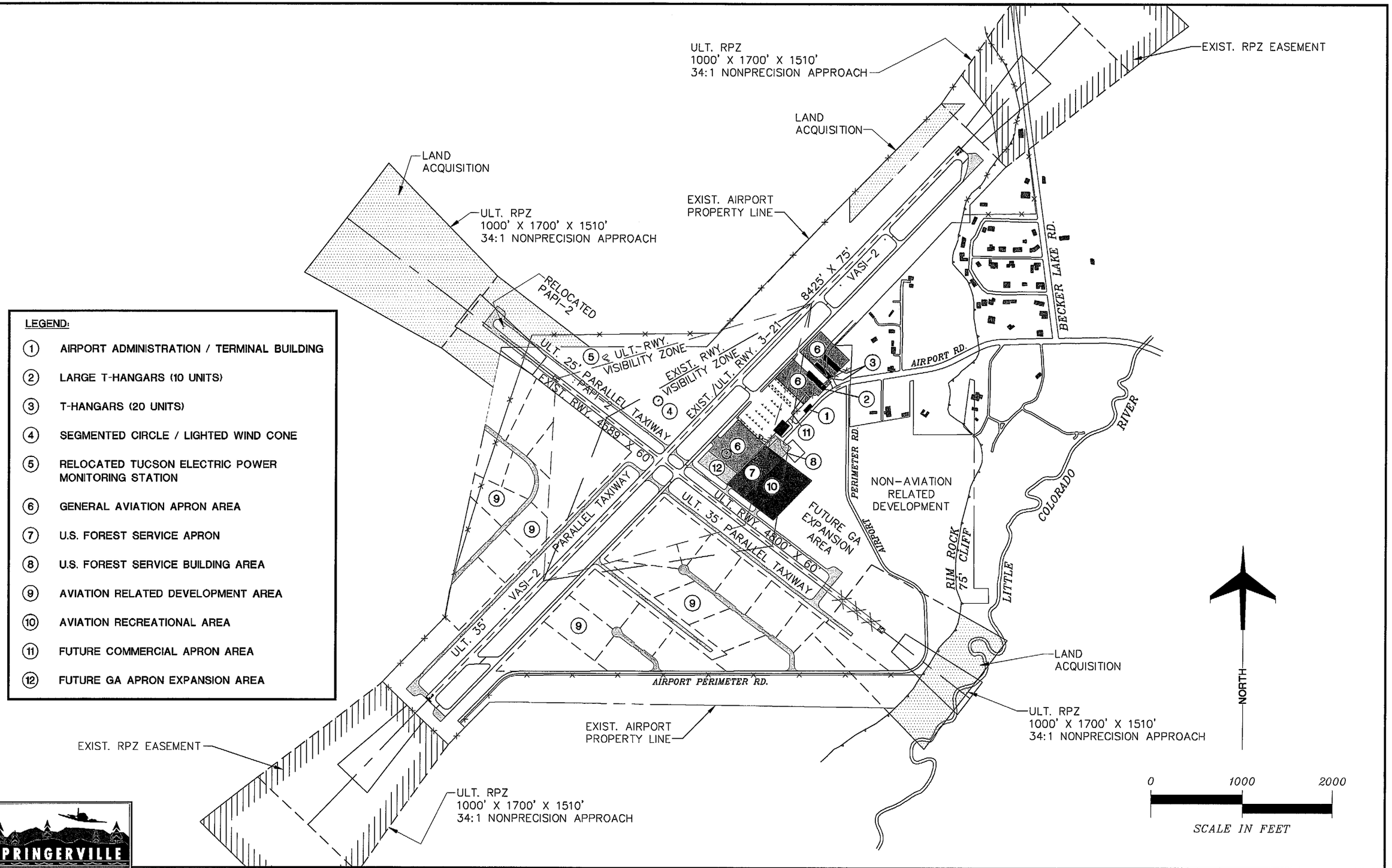

LEGEND:

1. AIRPORT ADMINISTRATION / TERMINAL BUILDING
2. LARGE T-HANGARS (10 UNITS)
3. T-HANGARS (20 UNITS)
4. SEGMENTED CIRCLE / LIGHTED WIND CONE
5. RELOCATED TUCSON ELECTRIC POWER MONITORING STATION
6. GENERAL AVIATION APRON AREA
7. U.S. FOREST SERVICE APRON
8. U.S. FOREST SERVICE BUILDING AREA
9. AVIATION RELATED DEVELOPMENT AREA
10. AVIATION RECREATIONAL AREA
11. FUTURE COMMERCIAL APRON AREA
12. FUTURE GA APRON EXPANSION AREA

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Exhibit 4B
AIRPORT DEVELOPMENT ALTERNATIVE B

area when the main ramp fills up. Also, should the permanent apron need to be expanded, the recreational apron can be easily upgraded and paved. A new recreational/overflow apron could then be located further east along Runway 11-29.

In general, the industrial air parks located on the southern and western quadrants of the airport, have been designed similar to those in Alternative A. An attempt has again been made to maximize the number of parcels with taxiway access.

Approximately 91.5 acres of land acquisition would be required to implement Alternative B. Again, this is to accommodate the runway extension, runway protection zones and extended perimeter road.

AIRPORT DEVELOPMENT ALTERNATIVE C

Exhibit 4C, Airport Development Alternative C, illustrates the third alternative developed for Springerville Municipal Airport. This alternative resolves the runway visibility zone issue by relocating the existing FBO/terminal building outside of the zone boundary.

Under Alternative C, Runway 11-29 would be extended 1,411 feet to the northwest for an ultimate runway length of 6,000 feet. A full-length, parallel taxiway designed to accommodate ADG II aircraft would be developed on the northeast side of the runway. This would allow any development in the eastern quadrant to be able to use this taxiway to access Runway 3-21's parallel taxiway without having to taxi across the aircraft parking apron.

Similar to Alternative B, all four runway ends would be equipped with nonprecision instrument approaches utilizing GPS technology.

A partial-parallel taxiway constructed to ADG II standards is proposed for development on the southwestern side of Runway 11-29 to provide taxiway access to the proposed industrial air park. A similar taxiway to that proposed in Alternative B would be constructed on the northwest side of Runway 3-21. A taxiway stub into the southern quadrant would also be constructed, in order to increase the number of lots in the air park with taxiway access.

As with Alternatives A and B, the eastern quadrant of the airport would be used for general aviation services, including the FBO, terminal building, hangars and aircraft parking apron. Similar to Alternative A, the USFS apron and building areas have been located further back from Runway 03-21, in consideration of the runway visibility zone boundary. In addition, the FBO building has also been moved further east, out of the runway visibility zone. Alternative C locates the T-hangars just north of the FBO building and south of the proposed 7,500 square foot terminal building. This alternative does not provide for a recreational aircraft parking/camping area; instead, it provides for four additional air park parcels with taxiway access.

In general, the industrial air parks located on the southern and western quadrants of the airport, have been designed similar to those in Alternatives A and B. An attempt has again been made to maximize the number of parcels with taxiway access.

Approximately 123 acres of land acquisition would be required to implement Alternative C.

AIRPORT DEVELOPMENT COSTS

Rough development costs have been developed to aid in the evaluation of airport alternatives. These cost estimates reflect general, order of magnitude costs for major development items and should be used for comparison purposes only. **Table 4A, Airport Development Alternatives Cost Comparison**, depicts the costs associated with both airside and landside improvements, listed separately by key development actions.

In general, the cost differences between the three alternatives are tied to the runway visibility zone issue and the extension of Runway 11-29 (to either 4,800 or 6,000 feet). For example, Alternative C proposes to resolve the runway visibility zone issue by relocating the existing building; therefore, the cost of this has been incorporated into the general costs for implementing this alternative. No other alternative provides for this expense. Alternative C also provides for additional apron area to bring the existing apron back to the new FBO hangar location. This was not necessary under any of the other alternatives. In turn, Alternative C does not provide for a recreational aircraft parking/camping area which is provided for in each of the other alternatives. This reduces the cost of implementing Alternative C, compared with the remaining alternatives.

Cost estimates include rough grading and site preparation for all airside improvements; however, only some of the landside improvements are included. For example, the cost comparison does consider the cost of constructing the access roads to the industrial air park lease parcels, but it does not address the cost of preparing the individual parcels for development.

The total cost for Airport Development Alternative A was estimated at $8,026,400, the total cost of Alternative B was estimated at $8,871,400, and the total cost of Alternative C was estimated at $10,193,200.

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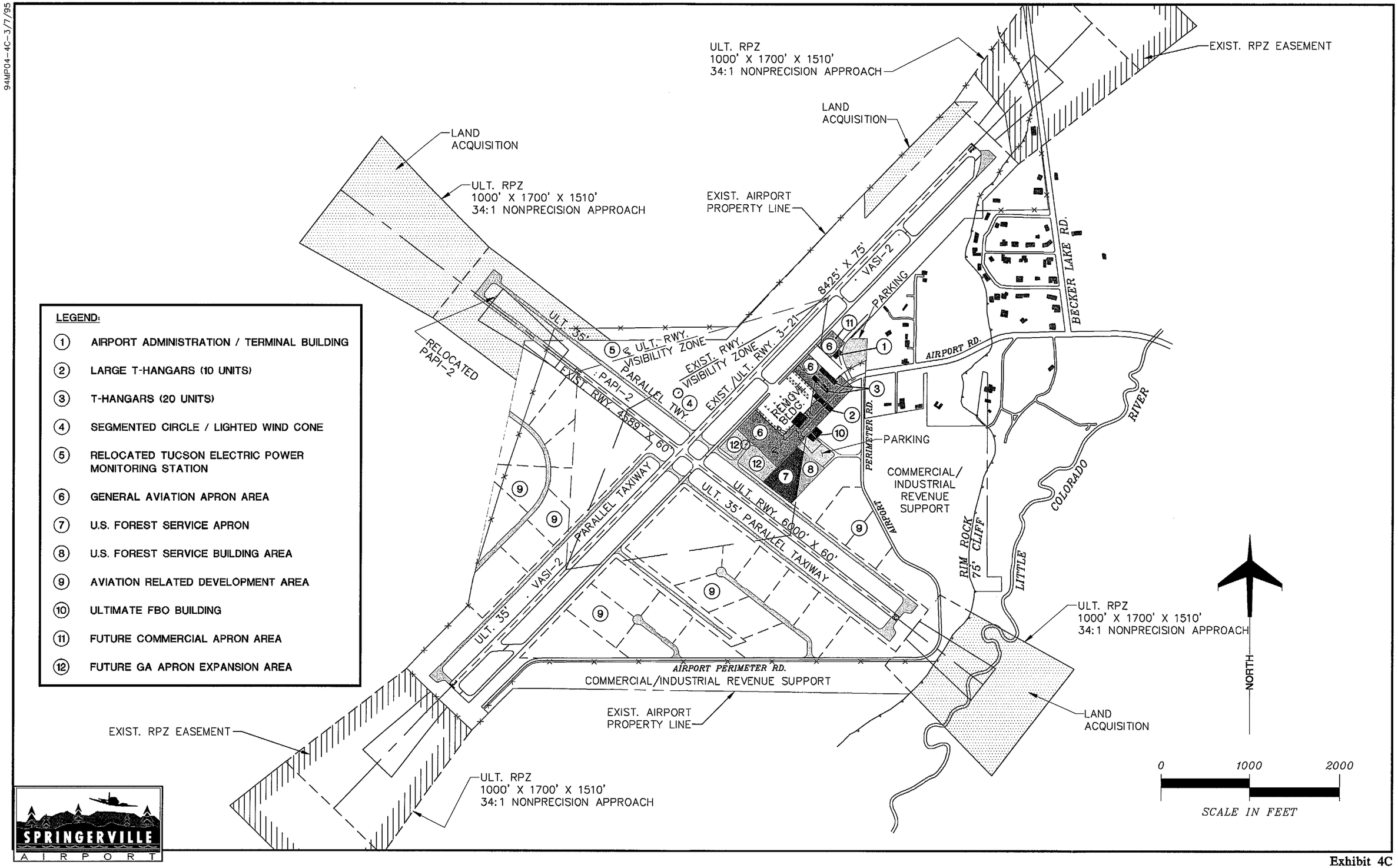

LEGEND:

1. AIRPORT ADMINISTRATION / TERMINAL BUILDING
2. LARGE T-HANGARS (10 UNITS)
3. T-HANGARS (20 UNITS)
4. SEGMENTED CIRCLE / LIGHTED WIND CONE
5. RELOCATED TUCSON ELECTRIC POWER MONITORING STATION
6. GENERAL AVIATION APRON AREA
7. U.S. FOREST SERVICE APRON
8. U.S. FOREST SERVICE BUILDING AREA
9. AVIATION RELATED DEVELOPMENT AREA
10. ULTIMATE FBO BUILDING
11. FUTURE COMMERCIAL APRON AREA
12. FUTURE GA APRON EXPANSION AREA

SPRINGERVILLE AIRPORT

Exhibit 4C
AIRPORT DEVELOPMENT ALTERNATIVE C

TABLE 4A
Airport Development Alternatives Cost Comparison
Springerville Municipal Airport

Item	Alternative A	Alternative B	Alternative C
Airside Development			
Runway Extension (11-29)	$235,200	$161,900	$235,200
Runway Overlay (03-21, 30,000 lbs SWL)	$351,500	$351,500	$351,500
Runway Overlay (11-29, 12,500 lbs SWL)	$153,000	$127,700	$153,000
Taxiway (30,000 lbs SWL)	$1,041,300	$1,128,400	$2,090,700
Taxiway (12,500 lbs SWL)	$247,800	$472,400	$0
Taxiway Overlay (30,000 lbs SWL)	$192,000	$192,000	$192,000
Runway Lighting	$70,600	$48,600	$70,600
Taxiway Lighting	$1,047,800	$1,235,300	$1,261,800
PAPIs	$90,000	$90,000	$90,000
REILs	$30,000	$60,000	$60,000
Runway/Taxiway Markings	$100,000	$100,000	$100,000
SUBTOTAL	$3,559,200	$3,967,800	$4,604,800
Landside Development			
Access Roads	$872,300	$938,900	$966,700
Auto Parking	$56,000	$56,000	$56,000
Apron Overlay (30,000 lbs SWL)	$200,000	$200,000	$200,000
Apron/Taxilanes	$1,576,400	$1,679,200	$2,020,700
Recreation Area Apron	$37,500	$37,500	$0
Tiedowns	$22,500	$22,500	$17,500
T-Hangars	$750,000	$750,000	$750,000
Fuel Storage	$200,000	$200,000	$200,000
Terminal Building	$562,500	$562,500	$562,500
Demolition/ Relocation Existing Terminal/Hangar	$0	$0	$200,000
SUBTOTAL	$4,277,200	$4,446,600	$4,973,400
Airport			
LAND ACQUISITION	$190,000	$457,000	$615,000
GRAND TOTAL	**$8,026,400**	**$8,871,400**	**$10,193,200**

RECOMMENDED ALTERNATIVE

Exhibit 4D, Recommended Airport Development Alternative, illustrates the preferred development alternative and is based on conversations with representatives of the FAA. This alternative was created by combining various elements of the previously discussed development alternatives. It proposes that, over the short-term, the airport sponsor obtain a deviation from standard to permit the existing FBO building, manufactured home and port-a-port to remain in place (as suggested in Alternative A), but, plan to relocate this building in the long-term (Alternative C). The FAA does not want to issue a permanent deviation for these structures; in their mind ultimate compliance with the safety criteria is paramount. They will, however, permit the structures to remain in place over the short-term as long as the airport development plans include a provision for relocating them. Given the limited amount of air traffic at the airport and the fact that there have been no complaints or concerns regarding visibility expressed by pilots in the past, this solution appears to be viable. No expansions or significant improvements would be made to any of these building until and unless they are relocated.

The Recommended Alternative provides a 1,411 foot runway extension to the northwest end of Runway 11-29, for an ultimate runway length of 6,000 feet. All four runway ends would be equipped with nonprecision approaches utilizing GPS technology. The difference in cost between providing visual and nonprecision approaches to Runway 11-29 is in the acquisition of land or easements to control the runway protection zones. The same GPS equipment used for Runway 3-21 can be used to provide the instrument approach to the cross-wind runway.

A full-length parallel taxiway designed and constructed to ADG II standards is proposed for the northeastern side of the runway. Similar to Alternative C, this will allow for direct access to the airfield taxiway system for larger aircraft from a greater portion of the eastern quadrant than if the taxiway were designed solely for ADG I aircraft.

Taxiways constructed for ADG II aircraft are also planned to provide access to the proposed industrial air parks. It is recommended that the taxiway for the eastern quadrant be located along Runway 3-21 (as suggested in both Alternatives B and C) and that a new taxiway be constructed along the southwest side of Runway 11-29, within the southern quadrant (as suggested in all three alternatives).

Under the Recommended Alternative, the general aviation service area would remain in the eastern quadrant (consistent with all three alternatives). The T-hangars would be located to the far northeast of the quadrant, north of both the existing FBO hangar and the proposed terminal building. The USFS apron area would be located southeast of the existing aircraft parking apron, within the runway visibility zone. An area just outside the runway visibility zone will be reserved for the USFS to locate any needed smokejumper's facilities. A recreational aircraft parking/camping area would be provided just east of the USFS apron (Alternative B). This area would be available when the main apron area overflows or when an expansion to the main apron or USFS apron is needed. Note that this alternative does not provide

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LEGEND:

1. AIRPORT ADMINISTRATION / TERMINAL BUILDING
2. LARGE T-HANGARS (10 UNITS)
3. T-HANGARS (20 UNITS)
4. SEGMENTED CIRCLE / LIGHTED WIND CONE
5. RELOCATED TUCSON ELECTRIC POWER MONITORING STATION
6. GENERAL AVIATION APRON AREA
7. U.S. FOREST SERVICE APRON
8. U.S. FOREST SERVICE BUILDING AREA
9. AVIATION RELATED DEVELOPMENT AREA
10. AVIATION RECREATIONAL AREA
11. FUTURE COMMERCIAL APRON AREA
12. FUTURE GA APRON EXPANSION AREA
13. ULTIMATE FBO BUILDING

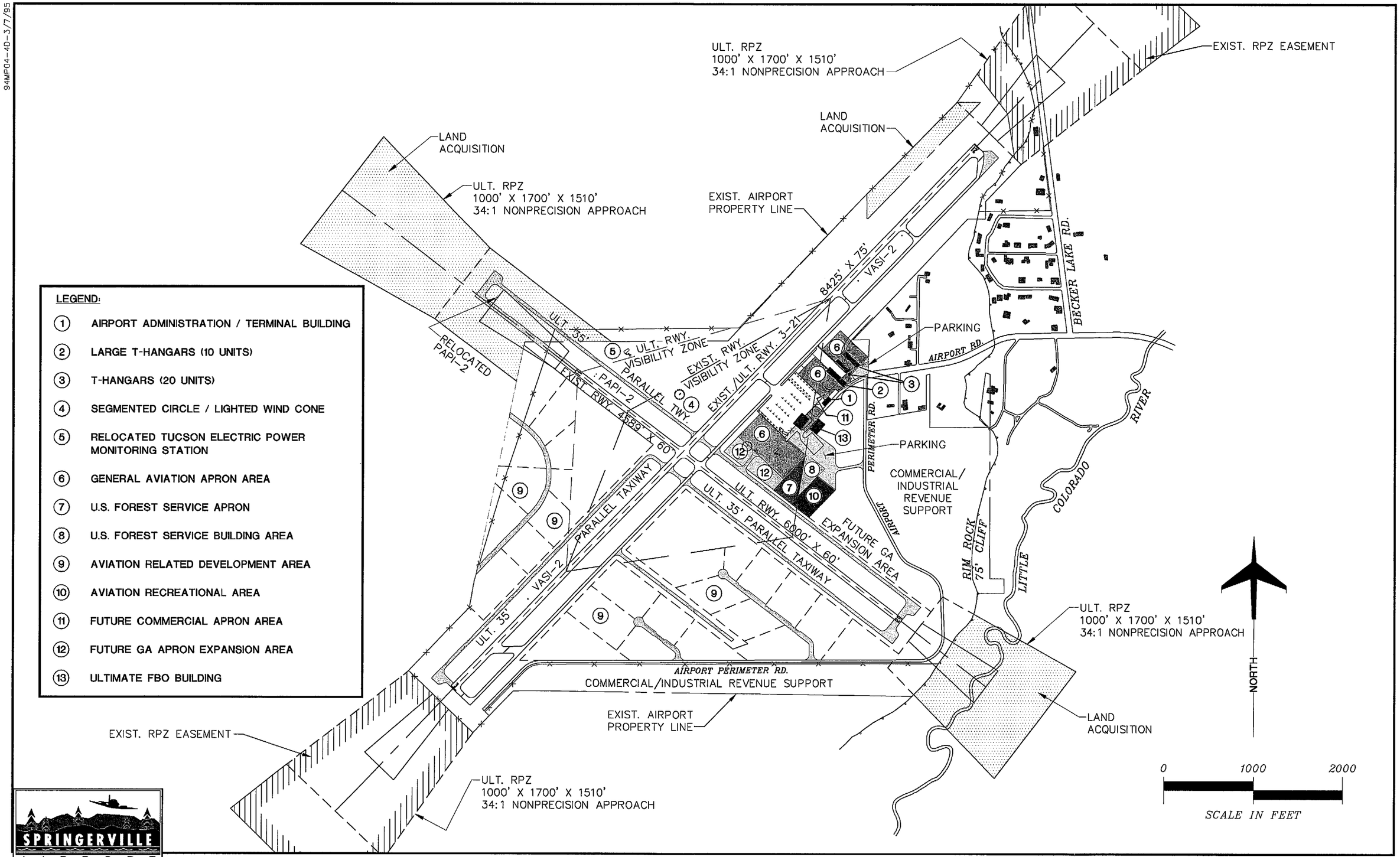

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Exhibit 4D
RECOMMENDED AIRPORT DEVELOPMENT ALTERNATIVE

for any industrial air park parcels along Runway 11-29; the entire quadrant west of the perimeter road is reserved for future expansion of the general aviation service area (Alternatives A and B).

The design of the southern quadrant would be identical to that of the previous alternatives: a new taxiway along Runway 11-29 and a taxiway stub to provide additional airfield access to lots in the air park. The design of the western quadrant is identical to that of Alternative C which moved the access road further to the west in order to accommodate the runway visibility zone resulting from the 1,411 foot extension to Runway 11-29. All parcels within the industrial park have been planned for between three and five acres in area.

Approximately 123 acres of land will need to be acquired in order to implement the Recommended Alternative.

The Recommended Alternative will cost approximately $9,842,000 to implement (see **Table 4B, Cost of Recommended Development Alternative**).

SUMMARY

Each of the four alternatives developed for Springerville Municipal Airport can accommodate the airside and landside facilities needed for the 20-year planning period and can effectively provide areas for future expansion beyond this period. The Recommended Alternative was selected because it resolves the runway visibility zone issue in the most economical and safest manner; it provides for a runway extension to 6,000 feet for Runway 11-29; it provides for nonprecision approaches to

TABLE 4B
Cost of Recommended Development Alternative
Springerville Municipal Airport

Item	Recommended Alternative
Airside Development	
Runway Extension	$235,200
Runway Overlay (03-21, 30,000 lbs. SWL)	$351,500
Runway Overlay (11-29, 12,500 lbs. SWL)	$153,000
Taxiway (30,000 lbs. SWL)	$2,090,700
Taxiway (12,500 lbs. SWL)	$0
Taxiway overlay (30,000 lbs. SWL)	$192,000
Runway Lighting	$70,600
Taxiway Lighting	$1,261,800
PAPI's	$90,000
REILs	$60,000
Runway/Taxiway Markings	$100,000
SUBTOTAL	$4,604,800
Landside Development	
Access Roads	$916,700
Auto Parking	$56,000
Apron Overlay (30,000 lbs. SWL)	$200,000
Apron/Taxilanes	$1,677,000
Recreation Area Apron	$37,500
Tiedowns	$22,500
T-Hangars	$750,000
Fuel Storage	$200,000
Terminal Building	$562,500
Demolition/Relocation Existing Terminal/Hangar	$200,000
SUBTOTAL	$4,622,200
Airport	
LAND ACQUISITION	$615,000
GRAND TOTAL	**$9,842,000**

all four runway ends; it effectively provides access to the greatest number of lots in the industrial air park; it provides ample opportunity for landside development, both in the designated general aviation development area and elsewhere; it provides for a recreational aircraft parking/camping area which can be used as overflow apron, when necessary; and it allows for flexibility to accommodate future, unanticipated airport needs. Potential environmental impacts are expected to be virtually the same for each of the alternatives developed; therefore, this was not a significant factor in selecting the recommended alternative.

Following a review of these four alternatives by the Planning Advisory Committee, one alternative or a combination of the four will be selected. The selected alternative will be further detailed in the following chapter, **Airport Plans.**